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ABSTRACT

This publication addresses Master's in Education programs and some commonly accepted standards of good practice particularly in light of the degree's increasing importance as a primary credential for those seeking to improve and upgrade their professional skills. After a brief review of the history of Master's degrees, a section on the degree program and institutional setting notes two types of programs, research or discipline-oriented programs and practice-oriented or professional programs. The next section describes some new approaches to Masters programs including program types and characteristics of quality experiences. The following section discusses students in such programs, their enrollment patterns, characteristics, sources of financial support, and numbers of international students. A central section examines the academic and institutional context of a Master's program and suggests several areas for consideration with regard to faculty, graduate advisory committees, departments and department leadership, academic deans, and central administration. The next section establishes some general requirements and specific aspects including admissions, curriculum and time requirements, capstone experiences, internships, practicum and applied experiences, and issues of non-traditional delivery of a Master's level education. The following section discusses development and evaluation of programs. The final section looks at the future of the Master's degree in the United States. (Contains 33 references, 6 tables, and 2 figures.) (JB)

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MASTER'S EDUCATION: A GUIDE FOR FACULTY AND ADMINISTRATORS

COUNCIL OF GRADUATE SCHOOLS

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Nancy A. Gaffney, Editor

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MASTER'S EDUCATION:
A GUIDE FOR FACULTY AND ADMINISTRATORS

A POLICY STATEMENT

COUNCIL OF GRADUATE SCHOOLS

Mary Ann E. Borchert
Dean in Residence

TABLE OF CONTENTS

Foreword iii

Introduction 1

History 2

The Degree Program 4

Institutional Setting 5

New Approaches to Understanding Master's Education 6

- Program Types 7
- Attributes of High Quality Master's Experiences 9

Master's Students 11

- Enrollment and Degrees Awarded 13
- Financial Support 17
- Gender 18
- Race/Ethnicity 19
- International Students 21

Academic and Institutional Contexts of a Master's Program 21

- Faculty 23
- Graduate Advisory Committee 25
- Department (Department Head/Graduate Coordinator) 26
- Academic Dean 28
- Central Administration (Graduate Dean/Vice President) 29

Requirements and Specific Aspects of a Master's Program 30

- General Nature of the Degree Program 30
- Program and Degree Requirements 32
  - Admissions 32
  - Curriculum and time requirements 35
  - Capstone experience 36
  - Internship, practicum, and other applied experiences 38

Non-traditional delivery of master's education 40
Development and Evaluation of Master's Programs 42
Interdisciplinary Programs 42
Establishment of New Master's Degree Programs 43
Academic Program Review 46
Accreditation 47
Discontinuation of Master's Degree Programs 48
Future of the Master's Degree in the U.S. 48
Bibliography 51

LIST OF TABLES AND FIGURES

Table 1. Degrees awarded in the U.S., 1971-1990 12
Table 2. Graduate enrollment, Fall 1990 14
Table 3. Master's degrees awarded, by discipline, 1971-1991 16
Table 4. Graduate enrollment, Fall semester, 1980-1990 19
Table 5. Master's degrees awarded, by ethnicity and citizenship, 1981-1991 20
Table 6. Percent of master's degrees awarded by discipline, ethnicity, and citizenship, 1990-1991 20

Figure 1. Master's degrees awarded, by year and gender, 1971-1991 15
Figure 2. Percent of master's degrees awarded, by gender and discipline, 1990-1991 18

FOREWORD

Master's education in the United States is a thriving enterprise, providing advanced education and training to thousands of students in hundreds of different degree programs. The master's degree has become the primary credential for people seeking to improve and upgrade their professional skills, as well as for those interested in changing fields. In addition, students pursue master's degrees as preparation for further advanced study and for their own personal intellectual development. Universities interact directly with business, industry, and government through their master's programs, and often develop these programs in response to specific local or regional interests and conditions. Because so many master's programs are designed for working professionals, master's education has led the way in the use of new technologies and approaches for the delivery of educational services, particularly at sites remote from university campuses.

All of these factors have combined to raise interest in master's programs among potential students and employers to an all-time high, and universities are responding by reviewing and improving their ongoing programs, designing innovative new programs, and developing methods for presenting master's education in a variety of formats that facilitate broad-based student participation. In all of these activities, universities need a reliable source of information on the nature of master's education as well as some understanding of commonly accepted standards of good practice.

This publication is intended to meet that need by presenting a comprehensive overview of master's programs and by providing examples of good practice in all aspects of master's education. We believe this book will be most useful to faculty members, department chairs, and college deans as they consider their roles in the development of graduate programs at the master's level, and to anyone who is interested in understanding the current condition of master's education in the United States.

During the preparation of this booklet, we received many helpful comments from a number of people and we want to express our appreciation to Clifton F. Conrad, professor of higher education, University of Wisconsin, Brian Foster, Dean of the Graduate College, Arizona

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Jules B. LaPidus
President
Council of Graduate Schools
Spring, 1994

INTRODUCTION

Master's education in the United States today is a substantial, dynamic, and important part of graduate education, which through its responsiveness to societal needs for advanced education plays a continuing and prominent role in the training of the American professional workforce. This document is a policy statement that identifies the principles of good practice for development and administration of master's degree programs in the U.S.*

Master's programs serve many of the educational needs of the student and of society that are not satisfied by baccalaureate degree programs—needs that can be met only by more advanced and specialized study in a particular field. Master's degree students seek these programs in order to prepare for scholarly or professional careers, to develop more advanced discipline-based research skills and information, or perhaps merely to satisfy a thirst for further knowledge. Our society, in turn, has a need for scholars, scientists, teachers, and professionals in a multitude of fields, and for well-educated men and women in all walks of life. Graduate education, and master's education in particular, produces a good portion of our teachers, social workers, librarians, scientists, business leaders, and scholars. Master's degree

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* It is important to differentiate master's education from education for the first professional degree. That type of degree, as defined by the National Center for Education Statistics (NCES) at the U.S. Department of Education, signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. There are ten fields identified by NCES as first-professional degrees: dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), pediatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (J.D.), and theological professions (Master of Divinity M.Div. or Master of Hebrew Literature M.H.L.). The administration of first-professional degrees is generally in a school or college for that profession within the institution, which may or may not fall under the purview of the institutional graduate dean and office. Contact the accrediting agencies in these professions for more information on the degrees.

graduates hold positions of importance and contribute to the nation's economic, political, educational, and social structure, thus making use of the leadership, management, clinical, and applied research skills gained from their graduate programs.

HISTORY

The history of the master's degree stretches back nearly seven hundred years. Early in the thirteenth century, the title conveyed the right to teach, and the titles of master, doctor, and professor were synonymous. In thirteenth century France, for instance, professors were called Masters, while in Bologna they were called Doctors. In time, the titles master and doctor came to represent degrees that were honorary distinctions conferred for academic scholarship.

America's early master's degrees were highly respected as a measure of academic achievement. The first master's degrees in this country were awarded at Harvard College in the mid-1600's. (Storr, 1953) During the colonial period, the degree continued to be awarded for one to three years of work beyond the baccalaureate. By the end of the eighteenth century, however, it had ceased to be an earned degree and was awarded to anyone who applied and paid for the privilege. The title had lost prestige and was no longer a symbol of achievement. In the latter half of the nineteenth century, education reformers laid the groundwork for graduate study as it is known today, and the master's degree was once again recognized as a prestigious academic award, earned for the successful completion of substantial post-baccalaureate study.

By the beginning of the twentieth century, master's degree programs were well established as the first post-baccalaureate degree and were offered at many American universities. Although recognized as a part of higher education, during much of this century master's education has been considered less important than doctoral programs by many faculty and administrators, despite the fact that increasing numbers of students were pursuing the master's degree and many more degrees were being awarded at the master's level. Concern was expressed by many university administrators and scholars that standards were lack-

ing and that the proliferation of degree titles meant less oversight and more inconsistency. Although the master's degree was considered appropriate preparation for public school and community college teachers, it was thought by many faculty and administrators to be an insubstantial degree and only a stepping-stone for those on the way to doctorates or a "consolation prize" for students who dropped out of or were not permitted to continue in doctoral programs.

Major changes began to occur, particularly after World War II. In writing about masters education, Donald S. Spencer (1986), places these changes directly in the heart of the American tradition of practicality, of attacking ". . . concrete problems with concrete solutions, constantly experimenting and adjusting, . . . in almost total disregard for either the imperatives of tradition or the dictates of ideology." As he states, "At no level of American education since World War II has that tinkerer's impulse proven more pervasive, or more salutary, than it has in the continuing redefinition of the once scorned and lowly Master's degree. In an almost total absence of centralized planning—in the absence, indeed, even of a genuine national debate about the issues involved—the Master's degree has evolved since 1945 into a major source of innovation in higher education, resembling only in its most mechanical aspects the dominant degree structure which had existed before." It seems clear that the factors often cited as decreasing the credibility of masters programs—different degree requirements for different kinds of programs, proliferation of degree titles, and an emphasis on applied research—are those that contribute most to the value and success of masters education.

The development of new and more varied master's degree programs has increased across the United States in the last twenty years. Colleges and universities have responded effectively and in a timely manner to the demand from students, professional organizations, communities, and industry for higher level training. Master's level training has proved valuable to the individual graduates and to their employers, whether in the public or private sector. Many employers are now choosing to hire graduates of master's programs, or they assist current employees in getting a master's degree while they are working, by providing release time, tuition support, or cooperative in-house degree programs sponsored and taught by a local university.

Today, about one-third of the 3,200 colleges and universities in the United States offer master's degree programs. It is now possible for students to choose from a range of over 800 types of programs, with such titles as Master of Arts in Anthropology, Master of Business Administration, Master of Science in Petroleum Engineering, Master of Social Work, Master of Education, or Master of Liberal Studies. (Peterson's Guides, 1993)

THE DEGREE PROGRAM

Master's degree programs fall into one of two general categories. 1) Research or discipline-oriented programs designed to prepare students for scholarly or research activity directed toward the acquisition of new knowledge. 2) Practice-oriented or professional programs designed to prepare students for professional practice directed mainly toward the application or transmission of existing knowledge. These latter programs constitute about 85 percent of all master's programs, and they have assumed a prominent role in preparing students to be capable in the workplace and to contribute to their professions. In some professional fields, the master's degree may be required as an entry-level credential for administrators, managers, or practitioners.

The master's degree is awarded to students who achieve and demonstrate a level of academic accomplishment and subject mastery substantially beyond that required for the baccalaureate degree. Graduates from master's degree programs should have developed the ability to: think logically and consistently; integrate and synthesize knowledge; understand how to access knowledge and information within the discipline; write in a clear, consistent, and logical manner; understand the interrelationships between their discipline and others; be aware of and know how to deal with ethical dilemmas within their profession; and apply their knowledge about the discipline to real-life situations.

At the master's level, a graduate is expected to have gained knowledge and skills which come from not only coursework, research, and practica required in the program, but also from the varied experiences and perspectives brought to the program and shared by the students and faculty. The specific requirements for individual students, even

those working in the same field, may vary to a certain extent, depending on their pre-master's preparation and experience, as well as the research project for which the academic coursework is designed to prepare them.

The program should culminate in an opportunity for students to integrate their graduate experiences and knowledge. A thesis or equally rigorous creative project, or a demanding comprehensive examination, can provide an appropriate capstone experience. Since the ability to communicate in one's field is essential, all master's programs should include an opportunity for the student to learn to present scholarly information in written and oral form to a variety of audiences.

Of all the post-baccalaureate degree programs, the master's degree is the most diversified, serving as the final or terminal degree for most master's graduates, but also being pursued as preparation for the doctorate. In addition, some fields specify the masters degree as a requirement for more responsibility on the job or for a higher salary. U.S. census data from 1990 show that master's graduates earn an average of $700 more per month than bachelor's graduates and $1,200 more than high school graduates.

THE INSTITUTIONAL SETTING

In the presence of strong institutional emphasis on the baccalaureate or the doctoral degree, master's education is sometimes ignored whenever decisions are made about the allocation of resources, time, or attention within an institution. Master's programs, however, when accommodated within the mission and goals of an institution, must be regarded as important and significant programs in their own right, with vigorous support from the faculty and administration of the institution as well as from the institution's community.

The ability of colleges and universities to develop both specialized and broad-based degree programs in response to needs of the community and region has been one of the strengths in the evolution of master's education. Colleges and universities have been able to respond to students who request certain types of programs, and to communities, government or public service agencies, and industries which want stu-

dents trained to work in emerging areas of interest. New technologies, disciplines, and societal concerns mean that even previously well-trained and experienced workers are returning to school. By developing new master's programs in fields such as environmental science, engineering management, health administration, vision sciences, dance therapy, ethnic or gender studies, historic preservation, and transportation planning, colleges and universities have proven that they can be responsive and can shape master's degree programs to meet the needs and demands of society.

This ability to provide graduates who can be a force in society argues for strong support for master's education within the university as well as in the community. By engaging in such programs, institutions that offer master's degrees form strong linkages with the private sector, agencies, and organizations that carry out the work of society, and provide opportunities for students and faculty to become directly involved in shaping practice in the disciplines and professions. Undergraduates seeking ways to place their education in some context can profit immeasurably from association with these programs, thus making master's education an important and vital link between higher education and society.

NEW APPROACHES TO UNDERSTANDING MASTER'S EDUCATION

In 1983, Clifton F. Conrad, Jennifer G. Haworth, and Susan B. Millar published *A Silent Success: Master's Education in the United States*. This book is based on a national study, conducted under the auspices of the Council of Graduate Schools, that involved interviews with nearly 800 people in 11 different kinds of master's programs (business, education, engineering, nursing, theater, applied anthropology, English, environmental studies, microbiology, sociology, and computer science) located in 31 colleges and universities representing all aspects of higher education. Forty seven case studies were done. The individuals interviewed—students, faculty, administrators, alumni, and employers—represent the "stakeholders" in master's education, that is, those who have a stake in the quality, value, and success of the pro-

grams.

Analysis of these interviews led Conrad et al. to identify four distinct types of master's programs that occurred across the range of programs studied and were independent of discipline or type of institution. In addition, certain attributes of quality (as perceived by the stakeholders) also were independent of the type of discipline or institution, or other factors which are usually used to describe academic programs.

These findings provide a way to look at master's education across fields of study, and they also demonstrate the critical importance of master's education in the U.S. Master's education is a strong link between higher education and the workplace. It provides students with the advanced education they want and need for advancement in their careers, and which employers need for preparation of their workforce. Analysis of the interviews in this study permitted the researchers to: a) understand stakeholder experiences, b) partition the 47 cases into four *program types*, and c) describe *attributes of high quality* in the stakeholders' master's degree experiences.

Program Types

Examination of the types of programs experienced by the stakeholders showed that master's programs in the study fell into four general program types which encompassed all fields of study.

The COMMUNITY-CENTERED PROGRAMS (17 of the 47 programs) actively engage faculty and students in experiences within the learning community where they work together in collegial approaches to the discipline. In these programs, students are encouraged to serve as active participants in the programs, and, thus, students and faculty collaborate in the learning process. There is a strong integration of interdisciplinary coursework, outside-of-class experiential learning, and a culminating experience such as a thesis. Students learn to "think differently." Faculty and program administrators involved in the community-centered master's program see it as a revitalizing experience and appreciate the opportunity to work with students. Programs in seven of the fields studied, including microbiology, education, theater, environmental studies, applied anthropology, nursing, and English were included in the Community-Centered program type.

Apprenticeship Programs (nine programs) give students practical experience in the discipline. Students are guided in their studies and their out-of-class practical work by "master craftspersons" who are strongly committed to master's education. There is a collegial relationship among students and faculty, and there is ongoing hands-on learning that enables students to test and apply their knowledge. A culminating work—a thesis, project, or creative work—is a major part of these programs. For students, these programs provide a strong professional development experience and they appreciate the chance to learn in such a supportive environment with masters of the craft. Faculty and program administrators express great satisfaction in being able to contribute to the "guild." Apprenticeship Programs were found in five fields: environmental studies, computer science, engineering, microbiology, and theater.

Career Advancement Programs (11 programs) are generally terminal master's degree programs in which students are prepared to be "experts" in their fields. The emphasis is on what is needed in the workplace, and the programs include core courses to provide the theory and basic knowledge, before students are required to apply that knowledge through case studies, practica, or internships. Practitioners in the field contributed as adjunct faculty and guest lecturers to bring the "real world" into the classroom, and since many of the students are working while attending school, the programs cater to non-traditional students by developing new methods for instructional delivery (satellite, audio- or video-conferencing, entertaining instruction). Faculty and administrative commitment is high. Students feel they gain comprehensive training and valuable career advancement credentials. In addition, employers utilize the programs as hiring and promotion screening devices. Career Advancement Programs were found in six of the fields of study: theater, education, English, applied anthropology, business, and engineering.

Ancillary Programs (ten programs) are those perceived by stakeholders to be subordinate to other programs offered in the department. Students concentrate on coursework, generally in lecture-type courses. There is little inclusion of workplace-related experience in the program. The ancillary programs are generally found in departments where the doctoral program is the primary focus of the faculty. The

master's students thus receive a sound academic experience which is generally good preparation for continuing on into a Ph.D. program, but their education is not the top priority of the faculty. The degree is often viewed as a "consolation prize" for students who do not go on for the Ph.D. The ancillary master's programs tend to be advantageous to faculty in the doctoral departments as a good way to screen students, and students provide tuition revenue and are available to assist faculty on research. These master's programs provide credentials for their graduates but have limited value in preparing practitioners for the non-university workplace. The Ancillary Program structure was found in eight fields: nursing, business, English, sociology, theater, engineering, education, and microbiology.

Attributes of High Quality Master's Experiences

In asking what contributes most to enhancing the quality of the master's experience, Conrad et al. found that there were certain attributes or characteristics which appeared in those programs where stakeholders indicated high quality experiences. The presence of these attributes had positive, long-term effects on the students. The attributes of quality are not those which are traditionally thought to relate to excellence, such as academic discipline, type of institution, full or part time study, type of delivery system, or program prestige, but were characteristics that are relatively new to considerations of academic programs. The authors grouped the attributes of quality into four clusters.

The CULTURE OF THE PROGRAM, that is, the underlying values that provide a context for the way that students and other stakeholders interact, had a strong effect on quality. Those programs where there was ***unity of purpose*** among the faculty, administrators, and students, about the need for the program and the way it would be taught, gave everyone involved a sense of collective ownership and thus the outcome was positive. In the programs where there was a ***supportive and challenging learning environment***, the cooperative support and collegial learning made the program a positive experience. Participants felt safe to make commitments and take risks which expanded their learning experiences.

ASPECTS OF LEADERSHIP AND THE HUMAN DIMENSION, the interactions

and attitudes of students and faculty, contributed strongly to high quality master's degree programs. These programs had faculty who were ***active in their disciplines*** and were committed to sharing their knowledge and professional activities with master's students. These faculty also tended to have had ***non-university experience***, and they could provide students with first-hand perspectives about the field and what was needed to survive and excel in the workplace. The program administrators and faculty provided ***leadership*** that built an effective learning environment by inviting participation from all stakeholders, and they were strong advocates for the master's programs to the institution and community. ***Committed students with diverse backgrounds and experience*** contributed to the success of the programs and to their own achievements.

PLANNED LEARNING EXPERIENCES took many forms which enhanced the quality of master's programs. ***Core coursework*** and learning experiences at the graduate level provided students with basic knowledge, skills, and information about practices in their fields. ***Immersion in a given subject***, whether teaching or learning, often in non-traditional formats such as intensive courses taught over weekends or in the summer, gave stakeholders opportunities for extensive interaction and collaboration. Students who were involved in ***doing-centered learning***, such as laboratory or field research, internships, practica, or professional arts performances, were able to extend the theory learned in their coursework and they developed a more critical and broadened awareness of their discipline. In programs where faculty or administrators provided ***individualized attention and mentoring***, the evidence of support strengthened a student's resolve to continue in the program. The inclusion of a culminating experience which was a ***tangible product such as a thesis or project report*** gave students a chance to enhance their analytical and communication skills, to integrate their education, and to make a personal contribution to the field. Other ***outside-of-class activities***, such as cooperative peer learning and study groups, orientation programs, seminars, faculty/student social events, and journal clubs, enabled faculty and students to learn from one another in informal settings.

RESOURCES available to master's programs were shown to be important. In the majority of programs studied, institutional and sometimes

faculty commitment did not match that of students, alumni, and employers, and while their programs were often viewed as successful, those programs characterized as being strong all exhibited institutional and departmental commitment. ***Institutional support*** was demonstrated by funding for facilities, supplies, and student financial support, as well as consideration of faculty involvement in master's programs in promotion and tenure policies and calculation of faculty workload. ***Departmental support*** was shown in quality programs by a clear commitment to master's education, with financial resources, help for program graduates in finding professional employment or application to doctoral programs, and recognition of faculty time and responsibilities in working with master's students.

MASTER'S STUDENTS

Master's degree students, like master's programs in the U.S., are diverse. They differ in terms of gender, age, ethnicity, financial support, previous experience or education, reasons for attending graduate school, and goals. What unites them is that they have earned a bachelor's degree, they can see the utility of further education, and they are willing to spend the time, money, and energy to further their education.

Many students work at a full-time job before enrolling in a master's program. Some begin a master's program after deciding to make a career change. Many work for a time to support family and to accumulate funds to pay for school before deciding that they can afford the time or expense of further education, and others decide to get an advanced degree after seeing that they will need it for career advancement. Many of those in the workplace attend graduate school on a part time basis, taking one or two courses a term. Attending part-time provides students with an opportunity to re-learn study skills and develop ways to manage the personal and professional demands on their time while attending school before deciding to attend graduate school as a full time student. The traditional view of a master's student as a white male attending graduate school full time immediately after finishing the baccalaureate degree is no longer valid. The typical master's degree student in the 1990s attends school part-time, is older, probably

has worked after obtaining the baccalaureate, and is most likely to be female.

Table 1* shows the increase in numbers of academic degrees granted at all levels, from high school through the doctorate, over the last twenty years. Master's degrees awarded have increased in that time by over 40 percent, whereas the number of high school graduates has decreased by approximately 15 percent. Recent census data show that over three percent of the adult population of the country have earned a master's degree. (Kominski, 1990)

TABLE 1. DEGREES AWARDED IN THE UNITED STATES, 1971-1991

	1970-71	1974-75	1980-81	1984-85	1990-91	% change 1971 to 1991
Doctorate	32,107	34,083	32,958	32,943	38,547	20%
1st Professional	37,946	55,916	71,956	75,063	71,515	88%
Master's	230,509	292,450	295,739	286,251	328,645	43%
Bachelor's	839,730	922,933	935,140	979,477	1,081,280	29%
Associate's	252,610	360,171	416,377	454,712	462,030	83%
High school	2,938,000	3,133,000	3,020,000	2,677,000	2,511,000 * (*estimated)	-15%

Source: NCES 1992, 1993b

* Data showing graduate enrollment and master's degrees awarded, especially in the years between 1970 and 1991, are included in this policy statement to indicate the extent of change in the focus, practice, and perception of master's education in recent years. The data and information included here are intended to be viewed historically, to help the reader understand these changes over time.

Master's students may extend their education in the field in which they have received a basic background at the baccalaureate level, or they may choose to continue their education in a new direction (a student with a B.S. in engineering going on for an M.B.A., for example). There are many reasons why people choose to pursue a master's degree, and students generally fit into more than one category. Master's students are in graduate school: 1) to gain the advanced knowledge needed for a particular job; 2) to advance or qualify for a higher salary in their present job; 3) to update their skills in fields affected by rapidly changing technology; 4) to gain the skills and background to pursue a doctoral degree; 5) because a job in their field is not immediately available; 6) because they are not sure what else to do after receiving the baccalaureate degree; and 7) to pursue knowledge in a particular field purely for their own enjoyment.

Enrollment and Degrees Awarded

The master's degree is increasingly being used for career advancement and development of new skills for career changes. In recent years, the "tremendous growth in the number of master's degrees awarded can be traced to the need for continued professional development." (O'Brien, 1992) In 1992, over 800 different titles were used for master's degrees at institutions in the U.S. From the familiar degrees of Master of Arts and Master of Science, the variety of master's degrees has extended over the years to include such unique and specific titles as Master of Human Resources, Master of Art Education, and Master of Arts in Northern Studies. The number of institutions offering graduate degrees has also increased. Latest data available show that 1,261 institutions offer master's degrees. At 566 of these institutions, the master's is the most advanced degree offered. (NCES, 1992) About 75 percent of all graduate and professional degrees awarded each year in the United States are master's degrees.

For many years, the proliferation of new degree titles in response to a differentiated market and to the needs of students, communities, and other constituencies has occurred within the formats and traditions present at each of the various institutions. Because there is such variability in the way this has been and is being done, however, each institution

is urged to adopt guidelines for assigning titles to master's degrees, such that there is consistency within the institution when new programs are developed. For instance, a master of science in a discipline such as engineering may require writing a thesis, and the Master of Engineering degree may be defined as a non-thesis degree requiring an applied research project report and more course credits instead of a thesis.

National enrollment figures for graduate programs are not reported separately for master's and doctoral students. Part of the reason for this is that some graduate programs define all new graduate students as master's students, and only after students have been in the program for a time is a determination made as to whether they will become candidates for the doctoral degree. Also, some students who enter as doctoral students may actually terminate their graduate study with a master's degree. These factors make it difficult for surveys of graduate enrollment to determine the number of enrolled students at each level.

Since the mid-1980s, more women than men have been enrolled in graduate programs. Department of Education data also show that almost twice as many graduate students are part-time rather than full time students. For the last twenty years, almost two-thirds of all graduate students have been part-time students. The latest available enrollment figures (Fall 1990) for graduate enrollment by gender, enrollment status, and control of institution are shown in Table 2. (Graduate Enrollment, Fall 1990)

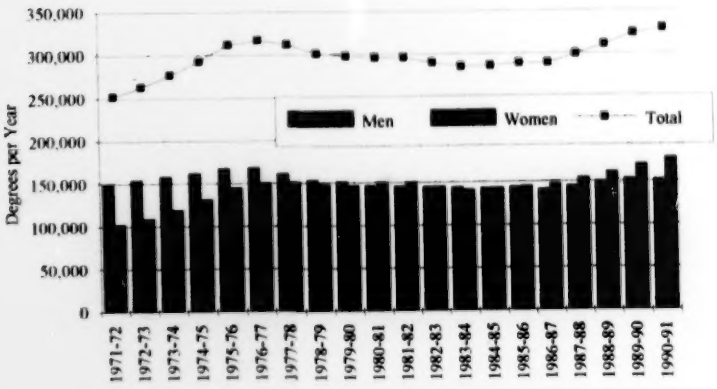
TABLE 2. GRADUATE ENROLLMENT, FALL 1990

	Total		Men		Women	
Graduate enrollment	1,573,637		732,948		840,689	
Full time	593,602	38%	319,633	44%	273,969	33%
Part time	980,035	62%	413,315	56%	566,720	67%
Public institutions	1,013,124	64%	452,199	62%	560,925	67%
Private institutions	560,513	36%	280,749	38%	279,764	33%

Source: NCES 1992

At the turn of the century, about 1500 master's degrees were awarded annually in the United States. By 1940 the number was 27,000, and in 1960, the number had risen to 75,000. (Berelson, 1960) In the twenty years between 1971 and 1991, the total number of master's degrees awarded has continued to increase and has now reached almost 330,000 per year. (Table 1. Degrees awarded in the United States, 1971-1991; Figure 1. Master's degrees awarded by year and gender, 1971 to 1991)

FIGURE 1. MASTER'S DEGREES AWARDED BY YEAR AND GENDER, 1971 TO 1991



Source: NCES 1992

An examination of broad categories of disciplines over the last 20 years shows changes in general enrollment patterns and degrees awarded, with growth seen mainly in the professional fields and a decrease seen in those disciplines once considered to be the traditional academic fields such as liberal arts and sciences. There has been a dramatic

increase in the number of master's degrees awarded in business, engineering, health sciences, public affairs, and computer sciences and a decrease in social sciences, humanities, and foreign languages. Over half of the master's degrees awarded in 1990-91 were in education (27 percent) and business (24 percent). (Table 3. Master's degrees awarded, by discipline, 1971-1991)

TABLE 3. MASTER'S DEGREES AWARDED, BY DISCIPLINE, 1971-1991

	1970-71	1975-76	1980-81	1985-86	1990-91	% diff 1971-1991
Total # of degrees	230,509	311,771	295,739	288,567	328,645	30%
Agriculture	2,457	3,340	4,003	3,801	3,295	25%
Architecture	1,705	3,215	3,153	3,260	3,490	51%
Area/ethnic studies	1,032	995	804	927	1,250	17%
Business and mgmt	26,481	42,512	57,898	67,137	78,681	66%
Communications	1,856	3,126	3,105	3,823	4,336	57%
Computer/info sci	1,588	2,603	4,218	8,070	9,324	83%
Education	88,952	128,417	98,938	76,353	88,904	0%
Engineering	16,443	16,342	16,709	21,661	24,959	34%
Foreign languages	4,755	3,531	2,104	1,721	2,073	-129%
Health sciences	5,445	11,885	16,004	18,624	21,228	74%
Home economics	1,452	2,179	2,570	2,298	2,021	28%
Law	955	1,442	1,832	1,924	2,057	54%
Letters	12,474	10,824	7,744	7,454	9,251	-35%
Library sciences	7,001	8,037	4,859	5,626	4,805	-46%
Life sciences	5,728	6,582	5,978	5,013	4,765	-20%
Mathematics	5,191	3,857	2,567	3,159	3,615	-44%
Multi/interdisciplinary	1,706	3,791	4,519	4,258	4,284	60%
Physical sciences	6,367	5,466	5,284	5,902	5,309	-20%
Psychology	4,431	7,811	7,998	8,293	9,731	54%
Public affairs	8,409	17,314	20,062	17,374	20,035	58%
Social sciences	16,476	15,824	11,855	10,428	12,069	-37%
Theology	2,710	3,290	4,220	4,467	4,508	40%
Visual/performing arts	6,675	8,817	8,629	8,416	8,655	23%

Source: NCES 1992, 1993b

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Financial Support

Students in master's degree programs tend to be self-funded or supported financially by themselves or their families. NPSAS (National Postsecondary Student Aid Study) data from 1989-90 indicate that only 40 percent of master's-level students received any type of financial support for their graduate education. (NCES, 1993a) In that academic year, 12 percent of master's students took out loans, 28 percent received grants, fellowships, and/or tuition waivers, 9 percent received assistantships, and 12 percent received financial support from their employers. Many students receive more than one type of support.

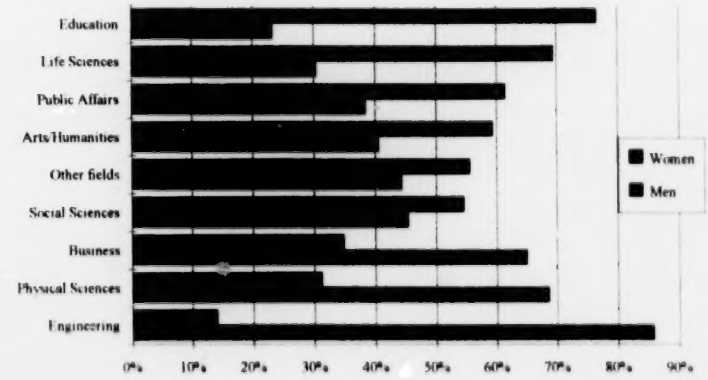
Financial aid awarded to master's students by a college or university is generally in the form of teaching or research assistantships. Students on assistantships receive a stipend to help with their educational and living expenses. In return, they either do supervised teaching or research, often directly related to the research or work required for the degree. In addition to the stipend, assistantships may also include financial support in the form of a waiver or tuition scholarship for all or a portion of the tuition. Other graduate student financial support is available from federal or state loan programs, work-study, fellowships and grants, and cooperative education programs in federal agencies or industry. (See the CGS publication *Graduate Student Financial Support* for sources of aid.)

Master's students at the institutions which also award doctoral degrees are more likely to receive aid than students at institutions where the master's is the highest degree. (NCES, 1992) This probably occurs because the doctoral institutions tend to be more heavily involved in research and therefore have more funding available for research assistantships at both the master's and doctoral levels. Also, many masters students at doctoral institutions are presumed to be continuing for the doctorate, and awards are made on that basis. Since many federal, state, and institutional financial support programs are limited to the funding of full-time students, part-time students are less likely than full-time students to receive financial aid. However, those who are part-time students because they work full-time may have educational benefits or cooperative education agreements through their employers.

Gender

Since the mid-1980s, women have constituted over half of the students enrolled in graduate programs, and over half of the master's degree recipients. Women are more likely than men to be older students and to be enrolled as part-time students. NPSAS data (NCES, 1993a) show gender differences in financial aid for master's students, with fewer women than men receiving aid (37 percent versus 45 percent in 1989-90). This is most likely due both to the large number of part-time students and to the fields of study chosen. More women than men earn master's degrees in library science, health professions, education, psychology, and public affairs, whereas men are more likely to enroll in programs of engineering, physical sciences, computer and information sciences, agriculture, business, and architecture. Smaller differences between men and women are seen in mathematics, social sciences, area/ethnic studies, multidisciplinary studies, biological sciences, fine and applied arts, and communications. Figure 2 shows the percent of master's degrees awarded in 1990-91 in various broad fields of study. Data were sorted by the percent of degrees awarded by gender. The category "other fields" includes architecture, communications, home economics, library science, and religion. The life sciences category includes biological and health sciences and agriculture.

FIGURE 2. PERCENT OF MASTER'S DEGREES AWARDED, BY GENDER AND DISCIPLINE, 1990-91



Source: NCES 1993b

Race/Ethnicity

As the total number of master's students and the proportion of women in master's programs have increased, the number of minority students has also increased although not as steadily. The total number of students enrolled in graduate programs increased by 17 percent between 1980 and 1990 (the latest year for which enrollment data are available) with the graduate enrollment of minorities increasing by 30 percent. Much of the minority increase has been due to growing numbers of Asian Americans in graduate programs (up 64 percent) with African Americans (up 11 percent), Hispanics (up 43 percent), and American Indians (up 23 percent) in that ten year period. In all races, the enrollment of women is increasing faster than the enrollment of men. Table 4 shows the growth in total graduate enrollment (master's, first-professional, and doctoral degree programs) for the years 1980 to 1990. The number of master's degrees awarded in those ten years is shown in Table 5. Because of the delay between time of enrollment and graduation, these tables are not directly comparable. However, it would appear from the data available that, among most minority groups, fewer students are receiving master's degrees than their enrollment in graduate programs would predict.

TABLE 4. GRADUATE ENROLLMENT, FALL SEMESTER, 1980-1990

	1980	1984	1990	% of total 1990	% diff 1980 to 1990
TOTAL graduate enrollment	1,340,900	1,343,700	1,573,600		17%
US citizens/permanent residents					
White	1,104,700	1,087,300	1,221,100	78%	11%
Minorities, total	144,000	141,100	187,400	12%	30%
Black	75,100	67,400	83,600	5%	11%
Hispanic	32,100	31,700	45,800	3%	43%
Asian	31,600	37,100	51,700	3%	64%
Am. Indian	5,200	4,800	6,400	0.41%	23%
Non-citizens/temporary residents	92,200	115,300	165,200	10%	79%

Source: NCES 1992

TABLE 5. MASTER'S DEGREES AWARDED, BY ETHNICITY AND CITIZENSHIP, 1981-1991

	1980-81	1984-85	1990-91	% of total 1990-91	% diff 1981 to 1991
TOTAL master's degrees	294,183	280,421	328,645		10%
US citizens/permanent residents					
White	241,216	223,628	255,286	78%	6%
Minorities, total	30,910	29,841	36,797	11%	16%
Black	17,133	13,939	16,136	5%	-6%
Hispanic	6,461	6,864	8,382	3%	23%
Asian	6,282	7,782	11,180	3%	44%
Am. Indian	1,034	1,256	1,099	0.33%	6%
Non-citizens/temporary residents	22,057	26,952	36,525	11%	40%

Source: NCES 1992, 1993b

In 1989-90, African Americans and Hispanics earned the majority of master's degrees in education, business, and public affairs. For American Indians, education, business, and life sciences were the major fields and Asian Americans earned most of their degrees in business, engineering, and physical sciences. (Table 6. Percent of master's degrees awarded by discipline, ethnicity, and citizenship)

TABLE 6. PERCENT OF MASTER'S DEGREES AWARDED BY DISCIPLINE, ETHNICITY, AND CITIZENSHIP

	White	Black	Hispanic	Asian	Am Indian	Internatl	# of deg by discipline	% of deg by discipline
Business	24%	22%	20%	28%	18%	24%	78,681	24%
Education	30%	36%	33%	10%	36%	7%	88,904	27%
Engineering	6%	3%	6%	19%	4%	21%	24,959	8%
Arts/Humanities	7%	3%	7%	6%	5%	6%	19,979	6%
Life Sciences	9%	8%	7%	8%	10%	8%	29,288	9%
Physical Sciences	4%	3%	4%	14%	3%	15%	18,248	6%
Public Affairs	6%	12%	9%	4%	9%	2%	20,035	6%
Social Sciences	7%	7%	8%	5%	9%	8%	23,050	7%
Other	8%	6%	7%	6%	5%	9%	25,501	8%
	100%	100%	100%	100%	100%	100%	328,645	

Source: NCES 1993b

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International Students

From 1980 to 1990 the number of international students enrolling in graduate programs in the U.S. has increased at all graduate levels. (Table 4. Graduate Enrollment, Fall Semester, 1980-1990) The number of master's degrees awarded to international students has increased also. (Table 5. Master's degrees awarded, by ethnicity and citizenship, 1980-1991) In master's programs, as in doctoral programs, international students earn degrees primarily in business, engineering, and physical science (24, 21 and 15 percent, respectively.). (Table 6. Percent of master's degrees awarded by discipline, ethnicity, and citizenship, 1990-91)

ACADEMIC AND INSTITUTIONAL CONTEXTS OF A MASTER'S PROGRAM

Most master's degree programs are administered within the structure of an academic department, and often a department will offer several master's degrees in related disciplines or different types of programs such as non-thesis as well as thesis programs in the same discipline. Interdisciplinary or multidisciplinary master's degrees may also be developed. Such programs are offered with the support of faculty in several different degree-granting units within or across disciplines.

Although the organization and administration of master's degree programs are the responsibility of the faculty and administration, students bear the ultimate responsibility for the success of their own graduate education. Master's students must be fully responsible for knowing and complying with all of the regulations and requirements for admission to graduate study and for the completion of degree requirements. It is essential that students become familiar with the policies and regulations as outlined by the program and the institution, and students should ask faculty, graduate program coordinators, and the graduate school about the requirements if they are not clear. Students can contribute immeasurably to the success of the entire program by actively taking part in departmental committees, in orientation programs for new students, and in the graduate council or graduate student organiza-

tion. This kind of involvement, over and above just meeting degree requirements, gives graduate students a greater sense of ownership and contributes to the professional development of the student as well as to the success of the program.

While there are different kinds of administrative structures for graduate education, two models predominate, and most others are variations on these two.* In the first, the graduate division, school, or college is responsible for all graduate degrees offered by the institution. In this model, all graduate committees and graduate students are responsible to the graduate dean, and final determination that degree requirements have been met is the responsibility of the graduate dean. In the second model, there is a graduate school of arts and sciences, and the sphere of the graduate dean's authority may be limited to departments and colleges in that area. Professional schools, in this structure, are responsible for their own graduate programs. (See the CGS publication on *Organization and Administration of Graduate Education.*)

Schools of business or education, in particular, may have a separate administrative structure with their own degree programs, academic policies, and dean or graduate dean. In institutions where there are such professional schools with separate administrative structures, the policies and procedures relating to graduate programs as developed by the graduate division may or may not apply to the master's programs in the separate schools. The basic concepts of good practice in master's education apply, however, and these professional schools are encouraged to adhere to the guidelines for quality graduate education as written in this document.

Regardless of institutional organization, the administration of master's degree programs involves four distinct administrative levels: 1) the program faculty and advisory committee; 2) department chair and/or program coordinator; 3) academic dean at the school or college

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* Throughout this document, the terms "graduate division," "graduate college," and "graduate school" are used interchangeably to mean the central unit or office responsible for graduate education at an institution. "University" and "institution" are used to refer to any institution of higher education, and the title of "graduate dean" refers to the chief academic officer for graduate education at an institution.

level; and 4) central administration, including the graduate dean and/or academic vice president. Each of these levels is discussed below.

Highlighted at the beginning of each of the following sections is a list of many of the ***elements to consider*** within each graduate program or institution when dealing with master's education. These are issues which are addressed differently at different institutions, or even in different programs within the same institution, but they are variables which must be considered by faculty and administration and about which decisions must be made and guidelines established.

Faculty

> ***Elements to consider:*** *graduate faculty, adjunct or affiliate faculty, duties (course loads, advising, research supervision, recruitment, admissions), development of degree requirements*

Program faculty have the responsibility for the delivery of academic coursework and seminars, and for the advising and guidance of graduate students through the completion of their master's degree programs. Faculty are also responsible for the coherent and logical development of graduate programs and the standards and policies that govern them. It is the faculty members who have the ultimate responsibility for ensuring that appropriate standards for academic performance are required of all who participate in the program. Moreover, they have a responsibility to stimulate the development of creative inquiry, professional integrity, and intellectual honesty. Master's degree programs must have faculty members who are committed to supporting the purposes of the programs. Faculty must meet the qualifications for graduate faculty status as set forth by the institution. The graduate faculty requirements identified by most graduate schools include, at a minimum, that the core faculty possess the appropriate terminal degree in the discipline, that they be actively involved in research and scholarly or creative endeavors appropriate to the discipline, and that they maintain their activities in the program by offering graduate coursework and advising graduate students. Those institutions which do not have a separately designated graduate faculty should develop appropriate

requirements for the teaching of graduate courses and advising of graduate students.

While the permanent faculty, as described above, make up the essential core of the program, they are often joined by part-time or adjunct faculty members who may also work on thesis committees with students and offer specialized lectures, seminars, and courses. Professional degree programs, in particular, can benefit from the utilization of practicing professionals with unique experiences who provide enrichment and a real-world perspective to students in the program. Care should be taken, however, to ensure that the students and the academic programs remain under the guidance and leadership of a substantial core of full-time tenured or tenure-track faculty.

Faculty members hold the key to successful recruitment, admission, and retention of students for the program. Faculty members should be fully informed about the recruitment goals of their master's program and the institution as they develop admission standards. The faculty are influential in helping prospective students decide to apply to, and ultimately attend, their institution. Personal contact from faculty members, by phone or letter, has been cited as an extremely important factor in helping students decide which graduate school to attend. Faculty must understand the full spectrum of what the program can offer a prospective student, and the best match of student and program can be achieved when sufficient information about the student's qualifications and attributes is available. When faculty take the initiative to personally contact prospective students, the likelihood of students choosing to enter that program increases significantly.

Because a faculty advisory committee is generally assigned to work with each graduate student, the interactions between faculty members and their students are especially close and important. Faculty should treat their students as professionals and colleagues, and they should provide mentoring and encouragement to students as they progress in the degree program. The attitude of faculty members toward the students in their master's degree program should be that of collaborators, rather than simply of lecturer and provider of knowledge. Faculty members are responsible for initiating and supporting activities that encourage professional development, by including students in their research and teaching, by providing opportunities for them to become

collaborators on articles and publications, and by encouraging their attendance and participation in professional meetings and conferences. Faculty members are important in assisting master's program graduates to secure appropriate employment or admission to doctoral degree programs. The quality of faculty advising often affects the career or further education choices of their students. Students are more likely to consider academic careers if their experience within the academic institution is a positive one.

Faculty members play an important role in the institutional consultative bodies for graduate education beyond the program or departmental level. Institutions that offer several graduate degree programs in different schools, divisions, and departments generally establish an institutional graduate committee or council to provide recommendations regarding institutional policies, curriculum, and planning for graduate education. Although members of the graduate council should represent the interests of graduate education as a whole and not act only for their specific programs or departments, faculty in master's degree programs find representation on the graduate council a useful way to educate their peers about the value of master's education.

Graduate Advisory Committee

> ***Elements to consider:*** *duties, number of faculty on the committee, choosing a committee chair*

Based on general guidelines for the graduate program as developed by the graduate school and the department, the specific academic program for each master's student is generally developed cooperatively between the individual student and his or her faculty advisor or major professor. Often, a committee of two or three faculty members works with the advisor and the master's student in developing a plan of study—the courses to be taken, other requirements such as seminars or an internship, and what the research will be if a research project is required. This faculty advisory committee and chair are chosen by the department or by the student, depending on the institution, for their special expertise in the areas of the student's research and/or program and career interests. In many institutions, committee members

appointed for graduate students must be approved by the graduate dean. Individuals with special competence who are not members of the university faculty may serve on advisory committees in some institutions, always working with the faculty committee. The composition of advisory committees may change as a student's work progresses, if there are changes in the research project, or sometimes because of personality conflicts. Such changes are always regarded as serious, especially after official appointment, and must be made with due regard for the integrity both of the student's program and of the department.

In master's programs where degree requirements consist of a defined series of courses for all students, such as in business, the need for a graduate advisory committee is not as great, and the role of the committee may be filled by the graduate program coordinator for all students in the program. In these, as in all cases, the master's student should always be carefully advised of the degree requirements, including such things as coursework, seminars, and deadlines for paperwork related to plan of study, candidacy advancement, and graduation.

Department (Department Head/Graduate Coordinator)

> ***Elements to consider:*** *student recruitment, admissions, degree requirements, procedures, liaison, relationship to other institutional priorities, faculty recruitment*

Program requirements for graduate students are developed and monitored by the department and the graduate division, as opposed to baccalaureate degree requirements which are generally developed by the institution as a whole and monitored by a central administration office such as the institutional records office. If departments develop explicit guidelines and procedures beyond those required by the graduate division for completion of degree requirements, they must be set forth clearly so that the students and faculty know and understand their opportunities, duties, and responsibilities. In addition, the program unit should provide information to its students on sources of funding opportunities, both within and outside the university. Guidelines and

procedures for students in each master's program should be printed in a departmental master's or graduate program handbook, and should include such things as:

- objectives of the graduate program;
- course and seminar offerings;
- research specialties offered;
- departmental requirements beyond those of the graduate division or institution;
- how advisory committees are to be selected;
- testing dates;
- reading lists for comprehensive examinations, if relevant; and
- guidelines for setting up and reviewing internships, if required.

At the department level, an individual, usually the chair and/or program coordinator or director, is responsible for coordinating graduate program routine operations such as student admissions, advisory committee assignments, advancement to candidacy, approvals, and recommendations for awarding degrees. In cases where the program coordinator is not the department chair, the coordinator should be involved in decisions regarding program resources, facilities and personnel planning, and program development. Coordinators may be responsible for recruitment and outreach activities, general advising, and assignment of student advisory committees and chairs. These individuals may also contribute to coordination of other activities, including academic program or accreditation reviews, colloquia, collaborative efforts with other institutional units, and liaison with other academic areas, the student affairs office, and the graduate school.

A critical element in any master's degree program is the recruitment and retention of a quality faculty that meets departmental requirements for graduate teaching, advising, and mentoring. To the chair and/or coordinator fall the important tasks of recruiting new faculty members and orienting them to their graduate program assignments. Orientation of new graduate faculty members is of particular importance, especially for those with little or no experience in teaching graduate courses

and seminars, serving on graduate student advisory committees, or building their research programs.

Academic Dean

> ***Elements to consider:*** *funding, other resources, advocacy*

The dean of each academic unit is responsible for the development, operation, and financial management of all programs in the departments within that unit. In many institutions, this may involve undergraduate and professional programs as well as graduate programs. The allocation of funds to support these programs is complicated by the fact that, for the most part, faculty, space, library facilities, and other resources are used jointly by all sectors of the institution. It is essential that school or college deans have a clear picture of the interaction of these programs and their relationship to the mission and goals of the institution. An overall view is particularly important with respect to faculty workload and the recognition that participation in master's programs will occupy a significant portion of a faculty member's time. Academic deans, along with faculty, may be involved in setting guidelines for such matters as the number of students in graduate seminars and the number of thesis committees chaired by each faculty member. Attention to these issues helps to ensure that students and faculty members can devote sufficient time and attention to the master's program.

The dean plays an important role in providing the leadership which is essential to sound planning, implementation, and promotion of master's programs, and a role in linking them to other program interests responsive to community and institutional needs and research development. In institutions where the baccalaureate degree is seen as the primary focus of the institution, as well as when doctoral programs predominate, master's programs often face an uphill battle in the competition for funding. To protect the quality of master's education and assure the recognition of this degree's value to the institution, it is important that the academic dean guarantee commitment to the master's degree programs when considering the general competition for resources within the institution.

Central Administration (Graduate Dean/Vice President)

Elements to consider: *program quality, degree requirements, financial aid, budget, advocacy*

The central administration of the institution, generally at the graduate division, establishes the administrative format for the development of each individual program and also the basic requirements for a master's degree with the concurrence of the faculty at the institution.

There are several different organizational models for the administration of graduate education, but most include a central position with broad responsibility for all graduate programs in a college or in the entire institution. Although any of various titles may be assigned to this central position, the title of choice for most campuses is that of graduate dean. Whatever the title, the role and authority for this position should be clearly defined in regard to responsibilities for graduate education at the master's degree level as well as at the doctoral level. (See the CGS publication on *Organization and Administration of Graduate Education.*)

Typical functions of the graduate dean include, but are not limited to: exercising general supervision for the maintenance of quality in all master's degree programs that fall within the scope of responsibility of the graduate office; initiating and facilitating development and planning for graduate curricula, faculty, facilities, and resources; administering and interpreting institutional graduate education policies; and overseeing the processing of graduate admissions, records, and awarding of the degrees. The graduate dean may be responsible for the allocation of student financial support (assistantships and fellowships). Moreover, the graduate dean plays an increasingly significant role in addressing issues of student diversity, graduate program advocacy, graduate outreach and recruitment activities, orientation for new graduate students, and training of teaching assistants. When the position is combined with that of central research administration at the institution, the dean is also involved in administrative supervision of sponsored research, fund-raising efforts, and allocation of institutional faculty research funds.

In institutions where the master's degree is the highest degree award-

ed, the graduate dean should become the advocate, along with the program faculty, for inter-institutional cooperation in the placement of those students who wish to continue in doctoral programs.

As a campus advocate for the master's degree, the graduate dean who is well versed in budget policies and practices can help to strike a balance in allocating resources in support of quality undergraduate programs, master's programs, and, where applicable, doctoral programs. Conflict may exist if faculty and students perceive that offering a master's degree program can occur only at the expense of the other programs. In the case of institutions that also offer doctoral programs, the dean is responsible for assuring that the master's degree programs are not devalued or ignored because of emphasis on the doctoral programs. The graduate dean should be prepared to demonstrate the value of the master's degree, as well as to argue for resources that ensure programs of merit for all participants in graduate education. Because many of the master's degree programs are developed in response to societal needs, a graduate dean, working in concert with college deans, department chairs, and program directors, can take the issues of advocacy and communication beyond campus boundaries, to explore and develop avenues of cooperation with community officials, legislative and professional bodies, and the media.

REQUIREMENTS AND SPECIFIC ASPECTS OF A MASTER'S PROGRAM

General Nature of the Degree Program

Although master's degree requirements are often individualized for each graduate student, master's programs at a given institution typically include two groups of *common characteristics*, the admissions requirements and the program requirements. Additionally, other characteristics may vary among programs and institutions. The **admissions requirements** in common for master's students include: a) an earned baccalaureate degree from an accredited institution; b) command of basic skills in the discipline; c) command of the English language; and d) superior motivation and abilities. The **program**

requirements which master's programs have in common include a) a minimum number of required credits; b) a core curriculum to be mastered or a prescribed program of courses, seminars, and/or research component; and c) an assigned faculty advisor and/or advisory committee for each student.

Other characteristics which may be part of master's degree programs vary in different programs within a given institution, as well as among institutions. Those things which may or may not be required in master's programs include: a) an internship or preceptorship; b) a "capstone" or culminating experience — thesis, research project, performance, or other scholarly or creative work and communication of it in writing and/or orally; c) a comprehensive examination; d) a requirement for residency at the institution where the degree is offered; e) completion of the degree within a specified time limit; f) completion of a "minor" field; or g) mastery of a foreign language or research tool. (See further discussion of these variables in the section on *New approaches to understanding master's education.*)

Each institution should set general requirements for all master's degrees, but departments or programs may develop more specific requirements for their own students. Because there are so many variables, it is essential that students know what is expected of them. An orientation program for new graduate students is an excellent way to acquaint the students with requirements for the master's degree, and to provide insight into what to expect and how the graduate program will be different from their undergraduate education. The orientation program can be coordinated by the graduate office or, in larger institutions, by individual units within the institution. Many institutions have found it very effective to involve graduate students in the development and presentation of these programs.

At the beginning of the graduate program, a study plan should be formulated for each student. This plan, generally developed by the student and faculty advisory committee, should list the courses to be taken, other requirements to be completed such as an internship or research project, and names of the student's faculty advisory committee, and it should include a time table for expected completion of all requirements and award of the degree. The preliminary plan of study may be revised as the student advances in the program, due to course

availability or research requirements, but it is important that there be an understanding at the beginning of the program as to what the student will be required to do and how long it will take. Each program and the graduate office should monitor progress of all graduate students, to ensure that satisfactory progress is being made and to be alert to instances where students may need encouragement or support along the way.

Tracking a student's progress and evaluating completed work, including courses, research, and internships or practica, should be done periodically. This is particularly important for programs taking more than one year. An annual evaluation of the student by the graduate advisory committee is one way to keep track of progress. The evaluation may be done through a form completed by the student and committee listing the accomplishments of the year, or it may just be a statement to the graduate school by the student's advisor that satisfactory progress is being made (or is not being made). Faculty advisors and committees must sometimes be reminded to meet with their students, and this is a good way to encourage communication.

After a student satisfactorily completes all requirements for the master's degree within the time limits established, the institution confers the degree, generally at the end of the term in which the student finishes the requirements.

Program and Degree Requirements

Admissions

Elements to consider: *application materials, standardized exam scores, TOEFL scores, faculty review, final decision and offer, record-keeping, need for original transcripts and scores*

It is essential that faculty consider all materials in an applicant's file and not depend solely on numerical grade point averages from previous college work or standardized test scores when making admissions decisions. In seeking ways to diversify the student body, it has long been recognized that some students who do not score well on standard-

ized tests or do not have outstanding undergraduate grades may indeed have the potential and talent for advanced study. Therefore, these numerical indicators may not be representative of their ability to do well in graduate school. A strong commitment to the graduate program is very important, however, and can often be assessed from the applicant's cover letter, goals statement, letters of recommendation, or a visit with the student in person or on the phone. Graduate division faculty and deans must keep these issues in mind and continue to explore additional ways to identify applicants who would be good master's students. (See the CGS publications *An Essential Guide to Graduate Admissions* and *Enhancing the Minority Presence in Graduate Education* for further information on establishing and implementing admissions policies.)

Admission to graduate study at the master's level, as at the doctoral level, is based on review of an applicant's file by the graduate program director or a faculty committee within the program to which the student has applied. The institution and graduate program determine the materials to be submitted by the applicant. These materials generally include the application form, application fee, a cover letter stating the student's interest in the program, letters of recommendation from undergraduate faculty or others who can address the student's ability to succeed in graduate school, transcripts from all colleges and universities attended, and the results of a standardized test. Students whose native language is not English must also submit evidence of mastery of the English language. Individual departments or programs may require additional information for the application, such as a personal statement or essay on the student's experience and goals related to the chosen academic program, or a portfolio of writing or artwork for those who are applying to fine arts programs.

Admission to a master's program is based on a variety of criteria established by the graduate division of the institution and by the graduate faculty of the department or organizational unit in which the program is administered. The admissions process seeks to assure quality among programs at a given institution, as well as quality within a particular program, by admitting students who have the background and previous experience which will allow them to contribute to the program as well as to gain from it. Almost always, the graduate division

sets minimal standards to be met by all persons admitted to graduate study at the institution, but standards set by a department are specific to that department, and may be higher or more stringent than those of the graduate division. Normally, the graduate division requires that an applicant hold a baccalaureate degree from an accredited institution where the basic requirements are equivalent to those of the admitting institution and include adequate preparation in the chosen field of study with a minimum grade point average. Some graduate programs accept a copy instead of the original standardized test scores and past transcripts, with the understanding that originals must be submitted before the student registers for the first semester of classes.

The requirement for scores on standardized tests allows admissions committees to compare the individual applicant with the norm as well as with current and past applicants to the program. One widely used test, which is administered world-wide, is the Graduate Record Examination (GRE). The general GRE test is developed such that scores are reported on the verbal, quantitative, and analytical skills of the student. The GRE Board's own caution, however, should be widely recognized: GRE scores should never be taken as the sole criterion for admission, but rather should be used in conjunction with other measures of ability or scholarly promise. (See *Guide to the Use of the Graduate Record Examinations Program*, 1992-3, published by ETS.)

Research has shown that performance on standardized tests is difficult to interpret for students who have been out of school for some time after getting the baccalaureate. Many master's students are in this category, among them women and minorities or other groups of students for whom standardized tests may not be good predictors of success. For this reason, faculty and administrators of master's programs are especially urged to consider the standardized test scores only when used in combination with all other information provided by the student in the application.

Master's students must be able to understand written and spoken English, as that is the language of instruction in all colleges and universities in the United States. In general, students whose native language is not English or who have attended an undergraduate institution where English was not the language of instruction, are required to demonstrate mastery of English by submitting a satisfactory score on

the Test of English as a Foreign Language (TOEFL), offered worldwide by the Educational Testing Service (ETS), or by other equivalent means. The ETS also offers tests in written and spoken English which may be recommended or required by departments in addition to the TOEFL, especially for students applying for teaching assistantships.

Students should be notified promptly about admission decisions. In many institutions, official notification of these decisions comes from the graduate school or admissions office and is based on recommendations made by the departments. It is important to clarify this point since an offer of admission is a contract implying commitment of institutional resources. This is particularly significant if offers of financial assistance are being made.

Departments and the graduate school should establish record keeping systems that allow them to analyze their ratios of applicants to offers of admission to actual enrollments. They also need to know who their students are in terms of race, gender, and citizenship. Finally, it should be possible to track student progress toward the degree as well as degree completion or lack thereof. The graduate school should develop systems for analyzing these data on an institution-wide basis.

Curriculum and time requirements

Elements to consider: *mix of coursework and other requirements, minimum number of credits, maximum time limit for completion, extensions*

All students in master's degree programs take courses. Some degree programs consist solely of coursework, but most are composed of a mix of courses and other activities such as seminars, internship, arts performance, research, and/or thesis or project credits. During a master's degree program, a student should acquire the ability to analyze, synthesize, and create knowledge. This is accomplished through independent study, individualized research, practica, seminars, or studio or clinical experiences, as well as formal courses.

Although individual students in the same degree program may have different courses of study due to prior experience and research plans, there is often a core curriculum which all students in the program must

master. The minimum number of credits for a master's degree at any institution is determined by the graduate division, but the credit requirement for each specific degree program is determined by the faculty in that program and may be more stringent than the institutional requirements. A student may be required to take more than the required number of credits for the degree program if further work is required as preparation for the required coursework or research. This may be true of students entering a master's program that is different from the baccalaureate major or minor or those whose undergraduate program did not provide sufficient background.

Master's degree programs generally require a time commitment equal to at least one year of full time study (30 semester or 45 quarter credits). For some professional disciplines, the time required for a master's degree may be as much as the equivalent of two or three years of full-time work. Those programs which require a significant research or internship commitment fit into this category, and students who are starting on the master's in a discipline different from that in which they earned their bachelor's degree will also require more time. Part-time students will, of course, take longer to complete their degrees.

Institutions should consider instituting a maximum time limit for completion of master's degree requirements, including time for writing and defense of a thesis. Coursework in most, if not all, fields becomes dated, and it is incumbent on the faculty and the graduate division to make sure that students finish in a timely manner. However, the needs of students working on their degrees part-time and taking only one or two courses per term, the availability of required courses needed in sequence, and the conditions under which extensions to the stated time limit allowed for finishing the degree must be considered when setting time limits.

Capstone experience

Elements to consider: *thesis and non-thesis options, research projects, communication of results*

The inclusion of a culminating or capstone experience in all master's programs is strongly recommended. The master's program is often the first academic experience in which a student is expected to integrate prior learning. The faculty in each program must determine the most appropriate capstone experience for their graduate students to complete. Whether this capstone experience is a series of specific courses and seminars, one course which requires compilation and interpretation of information from previous courses and experience, a performance, a comprehensive examination, or a research project and thesis, the capstone experience requires a student to put into practice what has been learned in the program. The sense of achievement and opportunity to demonstrate comprehensive knowledge in a specialized field of study are sources of pride in the completion of a degree program for master's students. The integration of prior courses and information into a single project is noted by many students as being the most important part of their master's program, as it gives them a sense of completion and accomplishment. (Conrad et al., 1993)

A master's student who does a thesis or project should be required to design the research project with the help of a faculty advisory committee, conduct the necessary background literature search, do the research, analyze the results, write the thesis, and communicate the results at an oral thesis defense. This work will not necessarily be original research, but it will be a new application of ideas. Working on a thesis or project gives the student experience in doing research, and also teaches how to analyze the research of others, abilities which can be useful on the job, whether in academia or elsewhere. The master's student must also demonstrate the ability to write about and communicate orally the work done. In many programs, especially in the sciences and engineering where courses consist largely of problem solving, class participation, or short written assignments, students are not required to write extensively until the end of the master's program. The experience of having to organize one's thoughts, express them in an understandable way, and communicate them to one's peers gives students self-confidence in their abilities and a broader view of their discipline.

Master's research should be designed such that it and the thesis or project report writing can be done within a reasonable period of time,

and guidance on the part of the student's advisory committee is essential in guaranteeing this. Beginning researchers often want to answer all questions about a topic before writing the report or thesis, but master's work should be limited in scope. Because there may be loose ends, however, and not all questions will be answered during the research time available, students should be encouraged to include their thoughts on what they see as future research needs when reporting their work. The thesis and project approval process should be clearly articulated, and requirements for format of the written document and the formal presentation of this work should be made available to each student early in the degree program.

Guidelines on the purpose and framework of the master's research required must also be articulated. Differences between a thesis and a project are generally related to the extent and focus of the research, formatting of the finished written product, requirement to give an oral defense of the work, and final approval of the finished product. A thesis may be more extensive than a project in terms of the amount of research required, but this varies with the individual and the discipline. A thesis must meet institution or graduate school requirements for format, and usually is bound and placed in the permanent collection of the university library. The focus of the research for a master's project is generally more applied than that for a thesis, with the student often defining a problem in the workplace and developing a solution for it. Examples of this would be an engineer developing a safety manual for use in a specific setting or a teacher analyzing and solving a problem in a school, where the result of the master's research project may be published by the student's employer and used in the setting for which it was designed. A master's project may receive final approval at the advisory committee or department level. A master's thesis will generally receive final approval at the academic or graduate dean level.

Internship, practicum, and other applied experiences

Elements to consider: *type, supervision, credit earned, guidelines, cooperative education programs*

Interest in "on-the-job" experience is widespread and has led to the incorporation within some graduate programs of internships, preceptorships, practica, externships, and cooperative education programs. This trend parallels the rise in the number of non-thesis master's degree programs. These experiences outside of the college or university give a student the chance to participate in professional practice while under supervision, and they form an important part of many master's programs.

When an internship or other applied experience is required, guidelines should be spelled out clearly in each master's program manual or handbook so that students, faculty, and external associates know what is expected. Some accrediting agencies have guidelines for internships within those disciplines. Departments that require internships should help students to find a suitable internship position and should have a list of approved agencies and organizations with which graduate students can work. Departments must also clearly specify the number of hours to be worked, number of credits to be earned, who will supervise and who will certify completion of the internship (faculty advisor or external supervisor), at what point in the degree program the internship should have begun and/or been completed, and whether prior professional experience can be used for some or all of the internship credit. The program faculty also must develop procedures for monitoring the quality and nature of the internship experience to ensure that it is consistent with program goals, objectives, and standards. Agreements for exchange of fees and services may be developed between master's institutions and the local agencies where students serve as interns. For example, the institution may award tuition credits to the agency, for use by their employees, in exchange for supervision of interns within the agency.

Cooperative education programs are programs in which there is an agreement between a student and an employer, such as a federal or state agency or a local business, that the student will work part-time for pay while attending graduate school. These programs are advantageous to the student as they provide financial support in addition to the practical experience and training in the field of study. Although academic credit is not generally earned for this type of work, a cooperative education employer often provides benefits such as health insurance

and may guarantee the student a job upon graduation. The schedule for part-time work varies. It may be a full-time summer position which leaves the student free to attend school full-time during the academic year or a part-time position throughout the entire year. Employers are often flexible and can arrange work schedules based on a student's class schedule. The graduate division and career planning or placement office at an institution can facilitate development of these cooperative programs by interacting with agencies and businesses in the area. Students can also initiate arrangements with employers. The employer should require, from the graduate division or records office, confirmation that a student is making satisfactory progress on the degree each term.

Non-traditional delivery of master's education

> ***Elements to consider:*** *where are the students and when can they attend classes, contact hours per credit, calendar time per credit, residency*

Innovative approaches to providing master's programs have been developed to reach those students who, for a variety of reasons, cannot attend regular classes on a college or university campus. The approaches have included opening branch campuses or offering graduate courses at an off campus site to reach population centers not located near a college or university. Other innovations include newer methods of program delivery, such as offering courses via teleconference, video delivered by satellite, interactive video, or mailing videotaped lectures to each student in the class. Courses may be shortened from the traditional academic term to take place on evenings or weekends or during the summer. (See the CGS publication *Off Campus Graduate Education.*)

In any of these methods of delivery, the same standards of quality must be maintained by the institution as are required for those courses taught during the academic term on the institution's main campus. As outlined by Roberds, 1989, admission requirements for the master's program, frequency of course offerings, the presence of qualified faculty, access to library holdings, resources such as laboratories and

computers, and the number of contact hours, elapsed calendar time, and required student preparation for each hour of credit must not be compromised because the program is being taught in a different way. New technologies have given institutions the ability to reach students at a distance and more students are thus able to attend graduate school from their homes or their home communities. Faculty and students must work together, however, to keep communications open and keep the master's degree programs from becoming just a series of classes. Much of the value of graduate education is the opportunity to interact with other faculty and students and to share concepts, ideas, and experiences in the analysis of issues.

Residency requirements have traditionally been considered an important part of graduate programs. Being in residence and participating in classes on campus allows for interaction between faculty and students in the program, discussions outside of class, and mentoring of students. However, with more students acquiring their education long distance, through teleconferencing, satellite communications, and video or television courses, the residency requirement and non-traditional delivery may become mutually exclusive. Students who cannot experience interactions with other students and faculty are still able to learn on their own, but they must generally be more mature and more willing to be aggressive and seek help when needed. Faculty, on the other hand, must be more alert to problems that students might be having, and they should make every effort to reach out to help those who need it. A faculty member may plan to meet once or twice a term with all students in the class, together or separately, in their own community, and faculty should stay in touch with their students during the academic term via mail, telephone, or electronic mail on the computer. Programs should develop mechanisms to include opportunities for students to spend time with both faculty and other students in the program, for advisement, career counseling, and sufficient interaction so that they feel they are a part of the program and can exchange ideas with others in the program. Courses may be offered during a series of weekends or during the summer with all students required to participate. These often involve a shorter but more intensive time commitment than a full academic term, but they allow some of the coursework to be completed with others in the program.

DEVELOPMENT AND EVALUATION OF MASTER'S PROGRAMS

Interdisciplinary Programs

> ***Elements to consider:*** *what unit awards degree, what is title (how specific), research collaborations, regional research interests, dual degrees, accelerated programs, number of credits, time involved*

Graduate programs within an institution can complement each other, and this provides stimulation and intellectual strength to the entire academic enterprise. New graduate degree programs that cross traditional disciplinary boundaries can be developed. For example, faculty in the sciences, engineering, and public policy may join together to offer a degree program in environmental quality or environmental studies. Similarly, a master's program in creative writing can benefit from the collaboration of students and faculty in graduate programs in English literature, journalism, broadcasting, and theater. Some of the most interesting and challenging questions arise at the boundaries of existing disciplines and may not be amenable to resolution by existing disciplines or departments. Such interdisciplinary research questions may be addressed more appropriately by collaborative efforts, as for example in the bio-medical area, environmental sciences, or in areas of comparative literature and literary theory. The administration of these interdisciplinary programs can be handled by the faculty on a case by case basis for individual students. More frequently, however, multidisciplinary institutes, centers, or formal degree programs are being developed at universities. Faculty in the multidisciplinary programs generally have their major affiliation in an academic department, but they do collaborative research and support students in the interdisciplinary centers or programs. These graduate programs often are administered through the graduate school with review and approval by the graduate dean.

Provision is made by some institutions for accelerated or dual degree programs which take advantage of the overlapping interests in many programs and the need for graduates to have expertise in different

fields. By careful advance planning, students working on one degree can thus get another degree in less time than it would normally take for two degree programs. Some courses taken for one master's program may be accepted for credit in another degree program, if so articulated in institutional policies. In some cases, a student may apply graduate courses taken as an undergraduate toward a master's degree, assuming that the courses were not used for credit in the undergraduate program. Early planning on the part of students may allow them to get a baccalaureate in three years, for instance, with an additional two years for the master's degree. Institutions should recognize the need for these kinds of options, and define carefully and clearly the conditions under which they may be used.

Establishment of New Master's Degree Programs

The decision to initiate a new master's program is based on many factors and conditions. Often a new program will be developed by faculty and administrators who recognize that there is a need for future practitioners in a given field. In more and more cases, the impetus for such programs comes from professional groups, businesses, or industries outside the college or university that express interest in the availability of a master's program. A corporation may want more of its employees to have business degrees, for instance, or a hospital may require its nursing staff to get additional education, in nursing, in administration, or in a specific medical field such as radiology. Prospective students may express interest in a new degree program and lobby the institution to provide it. When an institution has faculty able to teach in such programs, or the institution is willing to commit new resources for it, the new master's program can be developed.

The following is a brief outline of the many factors which must be considered when a new master's degree program is being established. At the institutional level, the considerations most important for development of a new program are the following:

1. Clear evidence of the need for a high quality program that could not reasonably be offered through existing programs.
2. A body of knowledge that can serve as the academic core of the program.

3. Participation of faculty who are already active in their fields or productive in research, and are in full support of the new program.
4. Clear evidence of student interest.
5. Adequate financial resources.
6. Institutional administration that is supportive of the program.
7. Library facilities that are adequate for master's study in the new program area and in supporting areas.
8. Laboratories or comparable facilities that are available and adequate for the new program.
9. Appropriate procedures planned or in place for administering and reviewing the new program.

When the above conditions are met, the following process will increase the likelihood that the institution can establish a sound program leading to a master's degree:

1. Form a faculty committee at the department or school level to develop the proposal for the new master's program.
2. Develop the proposal for the new program, to include the following:
    a. Reasons for offering the program.
    b. Need for the program in light of the university's mission, other university programs, and local, regional, and national needs.
    c. Curriculum requirements: total credits; required and elective courses; internship or practicum, comprehensive examination, thesis or research project.
    d. Expected interactions of the program with existing university departments, and the liaison mechanism to be established with those departments; letters of support from interacting units.
    e. Number of students expected to participate in the program, and evidence of student interest.
    f. Availability of resources and facilities (faculty, space for student and faculty offices and labs, library

support)

g. Form and availability of graduate student support.

h. Plan for affirmative action or student diversification.

3. Discuss the proposal with the graduate dean to ensure that institutional and (in public institutions) state procedures for program approval are clearly understood.

4. Develop a detailed plan for the new program, including goals and objectives, academic procedures, and estimated costs to the institution.

5. Develop a statement of standards based on those established by CGS, the regional or provincial accrediting associations (where appropriate), the appropriate professional organizations, and practices at other universities granting the master's degree in the proposed discipline.

6. Develop a tentative schedule for establishing the new program and reviewing it. The review schedule should allow sufficient time (usually one year after approval of the program) for adequate recruitment of a quality applicant pool.

7. Present the proposal to faculty, heads of appropriate departments, and curriculum councils, for their suggestions and approval.

8. Invite outside consultant(s) to review the proposal, make recommendations, and possibly visit the campus to determine whether the department and the university are ready for the new program. If appropriate, consult with the public coordinating or regulating agency to which the proposal must ultimately be submitted.

9. Submit the revised version for approval to the graduate division.

10. Submit the proposal for approval to the relevant bodies as established by the university. New programs generally must be approved by the faculty graduate council, faculty governance group, university administration, and governing board of the university. In addition, approval may also be

required by the state higher education agency and regional accrediting association.

Academic Program Review

> ***Elements to consider:*** *procedures, coordination with accreditation reviews, timetable*

Although program review is often mandated by state or institutional governing boards, the graduate school should develop policies for and coordinate a periodic review of each graduate program, to assess progress and determine to what degree each program is doing well, continues to be viable, might require infusion of resources to develop further, or can benefit from a discussion of program goals. Academic program review is a natural follow-up to the extensive work which must be done in developing each new program. Program assessment is essential in guaranteeing that quality and efficiency are maintained in a degree program. A review should be done every five to ten years, and all graduate programs at an institution, master's and doctoral, are generally reviewed together within a discipline. They may or may not be reviewed with the baccalaureate programs within the discipline.

In the program review process, the institution should examine the unique characteristics of its master's programs and should develop evaluation criteria appropriate for each program. Practice-oriented or professional master's programs such as the M.B.A., M.S.W., or M.Ed. deserve careful separate attention because of their differences from traditional master's and doctoral programs. Although an institution may choose to review all graduate programs in a given discipline or department at the same time, the goals of each of the programs must be considered individually. Academic program review should be separate from, but coordinated with, accreditation review. (see Accreditation below) Much of the data collected at the institution such as graduate enrollment, gender, ethnicity, and enrollment status (full-time/part-time), graduate degrees awarded, financial support of students, and grants received can be used for both purposes, but in the academic program review there should be more of a specific analysis of the graduate program: how it supports the mission of the institution; how it meets

the needs of the community, region, or nation; how it fits into the future plans of the institution, or how it might need improvement. The purpose of program review is ultimately program improvement. (See the CGS publication *Academic Program Review of Graduate Programs* for information.)

Accreditation

Accreditation review is for the purpose of determining that an academic program is of quality satisfaction to meet the standards of the accrediting organization. In the United States, there are currently six regional higher education accrediting agencies and numerous disciplinary and professional accrediting agencies, at least 25 of which have criteria dealing with specific master's degrees. Accreditation is a voluntary, non-governmental self-regulating process, and accreditation review requires that the program show that it "meets or exceeds a level of quality considered to be necessary for that particular institution or program to achieve its stated purposes and thereby meet its responsibilities to all its publics." (Middle States Commission on Higher Education) Most institutions offering graduate degrees are accredited by one of the six regional agencies, New England, Middle States, Southern, North Central, Western, and Northwest. Regional accreditation addresses the ability of the entire institution to be engaged in higher education. Regional accreditation review teams generally review all of the administrative functions as well as the academic functions of the institution. Some of the degree programs within each institution, however, will also be accredited by the disciplinary accrediting agency which deals only with the program, or with the department or division in which programs in that discipline are offered.

Many of the programs that have special accreditation are the professional programs for which the master's degree is the terminal degree required for practice or advancement in the profession. Examples of these are the programs in business administration, engineering, education, library science, nursing, physical therapy, counseling, social work, and architecture. Programs in art, design, forestry, health services administration, journalism, landscape architecture, planning, rehabilitation counseling, and speech-language pathology may also be

accredited by their professional accrediting agencies.

Discontinuation of Master's Degree Programs

Decisions to eliminate programs should generally consider the same issues and follow essentially the same procedures as those for developing new programs. The need to discontinue a graduate program will be based on the demand for the program, cost effectiveness of the program, quality of the program, and whether the program fits into the mission of the institution. Using the academic program review process, departments and administration may decide that it is necessary to discontinue some of the graduate degree programs at the institution. In these cases due concern must be given to those students currently in the program, with provision for transfer to a similar program or continuation of the program until all current students have graduated within a reasonable period of time. All faculty and students involved must be given sufficient notice and information so that they can make decisions relevant to their own career plans.

FUTURE OF THE MASTER'S DEGREE IN THE U.S.

If recent history is an indication, the future of the master's degree is secure. Society is making use of the degree for training of its professionals, and, increasingly, students are finding that in order to progress in their careers they must have at least one advanced degree. The process of attaining the degree is changing, from the traditional practice of an additional one to two years in college after receiving the bachelor's degree, to a situation in which more and more students are going to school part-time while holding down a full-time job. More women, minorities, and "non-traditional" students are attending school in master's degree programs, and colleges and universities are beginning to accommodate these students by offering more evening, weekend, and summer classes, using new technology to deliver coursework to those who are place bound and cannot be in the classroom, and developing other methods to reach out and serve those who can benefit from graduate school.

Issues of access, quality, fiscal and resource support, and the role of the master's degree in higher education will continue to be important in shaping the future of graduate education at the master's level. Among the factors likely to influence the direction and importance of these issues are:

- recognition: the understanding, by higher education and society, of the value of master's programs which are the largest component of graduate enrollment;
- societal needs: the increasing demand to have a responsive system of education at all levels and for all citizens;
- economic viability: an increasing number of communities, both rural and urban, that view advanced education and applied research as opportunities through which they may derive economic benefits;
- non-traditional students: a growing population of graduate students who are older, hold off-campus jobs, are oriented towards professional careers and advancement in their current careers, and are subsequently interested in earning graduate degrees outside of the customary academic schedules and conventional campus settings; and
- new delivery systems: an accelerating interest in delivering instruction using new advanced technologies.

Partly in response to these factors, it is important that the faculty and administrators work together to provide an appropriate and supportive atmosphere for master's programs and their students by:

- understanding that the master's degree is a graduate degree that is responsive to the advanced educational needs of large numbers of the population;
- developing access opportunities to higher education for underrepresented groups, especially those who

seek the master's degree as their immediate goal;

- developing funding mechanisms that ensure adequate facilities to support research of importance in the workplace, and that provide resources to ensure continued scholarly development for graduate faculty at all institutions;
- expanding student and faculty recruitment efforts to develop a more diverse higher education institution;
- furthering the opportunities for interdisciplinary, inter-institutional, and college/university-corporate collaboration.

Graduate education at the master's level provides the opportunity for students to acquire advanced education and training for reasons of career development, changing career interests, and an increasing complexity of needs in the workplace. Despite the generally decreasing financial circumstances in the early 1990s at both public and private institutions, most ongoing master's programs are continuing to attract students. New master's degree programs are being developed in response to interest in society and in academia for advanced training which focuses on issues of current importance. Clearly, master's education is a strong and vital part of higher education and will continue to be a major and important effort of all graduate institutions.

BIBLIOGRAPHY

Albrecht, Paul A. 1982. Quality in Graduate Education: A Revisionist View. *CGS Communicator*; June 1982. Washington, D.C. Council of Graduate Schools.

Berelson, Bernard. 1960. *Graduate Education in the United States.* New York: McGraw-Hill.

Carroll, Mary Ann. 1989. Quality Issues in Graduate Education. *CSGS Proceedings, 1989.* Council of Southern Graduate Schools.

Carter, Deborah and Reginald Wilson. 1992. *Tenth Annual Status Report: Minorities in Higher Education.* Washington, D.C.: American Council on Education.

Carter, Deborah and Cecilia Ottinger. 1992. Community College Faculty: A Profile. *ACE Research Briefs* 3(7). Washington, D.C.: American Council on Education.

Casanova, S. L., V. A. Vidoli, M. I. Johnson, E. G. Wangberg. 1992. The Master's Degree, the Comprehensive University, and the National Interest. *CGS Communicator*, March 1992. Washington, D.C.: Council of Graduate Schools.

Comstock, Dale R. 1985. Understanding the Master's Degree. *CGS Communicator*, November 1985. Washington, D.C.: Council of Graduate Schools.

Conrad, Clifton and David J. Eagan. 1990. Master's Degree Programs in American Higher Education; in *Higher Education: Handbook of Theory and Research.* New York: Agathon Press.

Conrad, Clifton F., Jennifer G. Haworth, Susan B. Millar. 1993. *A Silent Success: Master's Education in the United States.* Baltimore, MD: The Johns Hopkins University Press

Council of Graduate Schools. 1989. *Off-campus Graduate Education.* Washington, D.C.: Council of Graduate Schools.

_____. 1990a. *Academic Review of Graduate Programs.* Washington, D.C.: Council of Graduate Schools.

_____. 1990b. *Graduate Student Financial Support: A Handbook for Graduate Deans, Faculty, and Administrators.* Washington, D.C.: Council of Graduate Schools.

_____. 1990c. *Research Student and Supervisor.* Washington, D.C.: Council of Graduate Schools.

_____. 1990d. *The Doctor of Philosophy Degree.* Washington, D.C.: Council of Graduate Schools.

_____. 1991. *International Graduate Students: A Guide for Graduate Deans, Faculty, and Administrators.* Washington, D.C.: Council of Graduate Schools.

Diminnie, Carol B. 1992. *An Essential Guide to Graduate Admissions.* Washington, D.C.: Council of Graduate Schools.

Educational Testing Service. 1993. *1993-94 Guide to the Use of the Graduate Record Examinations Program.* Princeton, N. J.: Educational Testing Service.

Glazer, Judith S. 1986. *The Master's Degree: Tradition, Diversity, Innovation.* ASHE-ERIC Higher Education Report No. 6. Washington, D.C.: Association for the Study of Higher Education.

Gray, Elmer. 1992. Attributes of a Quality Master's Education and Implications for the Future. *CSGS Proceedings, 1992.* Council of Southern Graduate Schools.

Kominski, Robert. 1990. *What's It Worth? Educational Background and Economic Status: Spring 1987.* Current Population Reports, Series P-70, No. 21. Washington, D.C.: U.S. Department of Commerce, Census Bureau.

LaPidus, Jules. 1985. Assessment of Quality in Graduate Education. *CGS Communicator,* June 1985. Washington, D.C.: Council of Graduate Schools.

Looney, Jacqueline 1992. *Enhancing the Minority Presence in Graduate Education IV: Models and Resources for Minority Recruitment and Retention.* Washington, D.C.: Council of Graduate Schools.

Minkel, C. W., and Mary P. Richards. 1986. *Components of Quality in Master's Degree Programs.* Knoxville, TN: Tennessee Conference of Graduate Schools.

NCES (National Center for Education Statistics, U.S. Department of Education). 1988. *Employment Outcomes of Recent Master's and Bachelor's Degree Recipients.* Washington, D.C.: U.S. Government Printing Office.

_____. 1992. *Digest of Education Statistics 1992*. Report 92-097 Washington, D.C.: U.S. Government Printing Office.

_____. 1993a. *Student Financing of Graduate and First-professional Education*. Report 93-076. Washington, D.C.: U.S. Government Printing Office.

_____. 1993b. *Trends in Degrees Conferred by Institutions of Higher Education: 1984-85 through 1990-91*. Report 93-356. Washington, D.C.: U.S. Government Printing Office.

O'Brien, Eileen M. 1992. Master's Degree Students and Recipients: A Profile. *ACE Research Briefs* 3(1). Washington, D.C.: American Council on Education.

O'Kelly, Barbara Ann. 1986. Results of CGS Research on Graduate Students. *CGS Communicator*, April-May 1986. Washington, D.C.: Council of Graduate Schools.

Roberds, Richard M. 1989. *Standards for Quality in Non-traditional Graduate Programs*. Knoxville, TN: Tennessee Conference of Graduate Schools.

Royster, Vermont. 1982. The Philosophical Crisis in American Education. *CGS Communicator*, April 1982. Washington, D.C.: Council of Graduate Schools.

Spencer, Donald S. 1986. The Masters Degree in Transition. *CGS Communicator*, January 1986, Washington, D.C. Council of Graduate Schools.

Storr, Richard F. 1969. *The Beginnings of Graduate Education in America*. New York: Arno Press.

_____. 1973. *The Beginning of the Future: A Historical Approach to Graduate Education in the Arts and Sciences*. New York: McGraw-Hill Book Company.

Young, Charles. 1985. Redefining the President or Chancellor's Role in Graduate Education. *CGS Proceedings, 1985*. Washington, D.C.: Council of Graduate Schools.

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